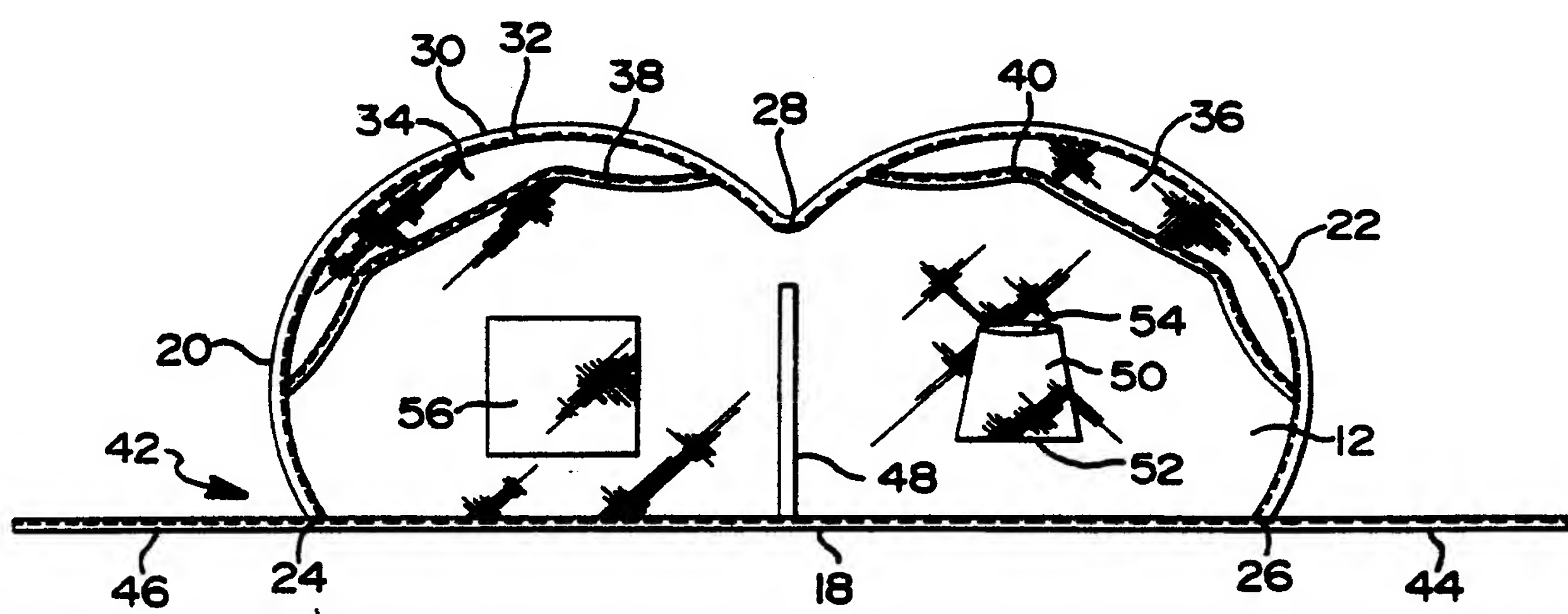




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>5</sup> :</b>  <b>A41D 1/20</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 92/11775</b>  <b>(43) International Publication Date:</b> 23 July 1992 (23.07.92)
<b>(21) International Application Number:</b> PCT/US92/00056 <b>(22) International Filing Date:</b> 3 January 1992 (03.01.92)  <b>(30) Priority data:</b> 637,002                      3 January 1991 (03.01.91)                      US  <b>(71)(72) Applicant and Inventor:</b> SWANSON, Dianne, E. [US/US]; 322 W. Crescent Lane, Harbortown, Detroit, MI 48207 (US).  <b>(74) Agents:</b> CZARNOTA, Paul, S. et al.; 3001 W. Big Beaver Road, Suite 504, Troy, MI 48084 (US).  <b>(81) Designated States:</b> AT (European patent), AU, BE (European patent), BR, CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), IT (European patent), JP, KR, LU (European patent), MC (European patent), NL (European patent), SE (European patent), US.		<b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> NURSING CAPE   <b>(57) Abstract</b>  <p>A nursing cape (10) to discretely cover a mother when breast-feeding in a public place is described. A disposable version of the nursing cape (110) comprises one layer comprising suitable material, such as non-woven polyrayon (111). A water repellant film, disposed upon the inner surface of the one layer, helps keep liquid from soaking through the cape (110). A permanent version of the nursing cape has two layers suitably joined together. The outer layer (12) is formed of a softer, absorbent material, such as cotton. The inner layer (14) is non-porous and prevents liquid from seeping therethrough. The nursing cape, whether the disposable version (10) or the permanent version (10), affords privacy to a mother breast-feeding a child. The cape further protects the mother's clothing when burping the child after feeding. The cape (100, 110) also furnishes protection when bottle feeding the infant. The cape may further include a bottle holder (50), a storage pocket (56), a pacifier holder (48), and cuffs (34 and 36) for catching falling liquids or solids.</p>		

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## NURSING CAPE

BACKGROUND OF THE INVENTION

This application is a continuation-in-part of Application Serial No. 07/637,002, filed January 3, 1990.

Field of the Invention:

The present invention concerns protective clothing. More particularly, the present invention concerns a protective nursing cape to provide privacy to a mother while breast-feeding. Additionally, the present invention offers a cape that can protect the clothing of a mother or other caregiver of a young child or infant.

Prior Art:

Breast-feeding infants has once again become a popular and accepted means for nourishing children. Yet the feeding demands of infants often conflict with the demands of today's lifestyle. This forces many mothers to breast-feed their children publicly. Yet this task is very difficult to accomplish with any discretion and privacy. To date, women who breast-feed publicly do so by covering themselves in a cloak. This makes the process cumbersome and more difficult.

It has been known heretofore that young children, particularly infants, tend to spit up food and drool upon their caregivers when being held, especially during and directly after feeding. This particularly occurs when the baby is being burped after feeding. The clothes of the caregiver can thus be stained under these circumstances, which is particularly undesirable.

Parents and other caregivers have used household items, such as towels or diapers, to cover their clothes while bottle feeding or burping young children. These household items do not offer satisfactory results. While towels or diapers or similar articles will protect a caregiver from stains from solid objects or liquids

immediately absorbed thereon, the towel or diaper will not protect a caregiver from solids which roll off of the towel. Further, towels or diapers may transmit liquids therethrough onto the caregiver. This is particularly true when the young child reclines against the caregiver, pressing the liquid through the towel or diaper.

Thus, what is needed is a protective clothing to offer both privacy to a mother breast-feeding and protection from drool or food staining the clothes of the caregiver. Further, a protective clothing is needed that will not permit liquids from soaking through the protective piece and staining the caregiver's clothing therethrough. Additionally, protective clothing is needed that will catch or otherwise prevent food or liquid rolling off the protective clothing and staining the caregiver or other surrounding objects. Finally, a protective clothing is needed that is disposable, such as for use in hospitals. It is to these ends that the present invention is directed.

#### SUMMARY OF THE INVENTION

The present invention teaches a nursing cape comprising:

- (a) an outer layer;
- (b) an inner layer comprising a liquid impermeable material; and
- (c) means for joining the outer layer and the inner layer.

The nursing cape of the present invention further comprises at least one cuff disposed along a portion of the outer layer. The at least one cuff serves to catch falling solids or liquids which would otherwise pass off the nursing cape and onto the clothes of the caregiver.

The nursing cape of the present invention has a base side, the base side having a right end and a left end. The cape further has a first arcuate side, extending

from the right end of the base side, and a second arcuate side extending from the left end of the base side. The first arcuate side and the second arcuate side intersect and terminate at a common point. The base side, the first arcuate side, and the second arcuate side define the circumference of the cape.

The nursing cape of the present invention is defined such that the at least one cuff and the outer layer of the cape cooperate to catch and retain solid or liquid items therebetween. The nursing cape of the present invention is further defined such that the outer layer may absorb liquids or stains thereon without the nursing cape passing the liquids or stains through the inner layer and onto the caregiver.

The nursing cape of the present invention may also further comprise means for removably securing the cape on a wearer. The nursing cape may further comprise a pacifier holder disposed on the outer layer of the cape, and may also further comprise a bottle holder disposed on the outer of the nursing cape. The nursing cape may further comprise a storage pocket disposed on the outer layer to hold associated items, such as a bib for the child which matches the fabric of the nursing cape. The nursing cape is designed such that it is deployed over one shoulder of the caregiver, and may be disposed over either shoulder.

The nursing cape of the present invention comprises both a means of privacy to a mother breast-feeding an infant, and a means for protecting a caregiver feeding, burping or otherwise caring for a child. Thus, when breast-feeding occurs, the cape conceals the feeding, thus offering privacy. When the child is being bottle fed, the cape offers protection to the caregiver's clothes. Whether breast feeding or bottle feeding is chosen, the nursing cape is used for burping the child or carrying him/her.



The present invention will be more fully understood with reference to the accompanying drawings, wherein like reference numerals refer to like parts.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a rearward view of a first embodiment of the nursing cape of the present invention;

Figure 2 shows a forward end view of the first embodiment of the nursing cape of the present invention;

Figure 3 shows a perspective view of the first embodiment of the nursing cape of the present invention; and

Figure 4 shows a perspective view of a second embodiment of the nursing of the present invention.

#### DETAILED DESCRIPTION OF THE EMBODIMENT

Referring now to Figures 1-3, there is shown therein a first embodiment of a nursing cape 10 of the present invention. The nursing cape 10 comprises an outer layer 12, an inner layer 14, and a means 16 for joining the outer layer 12 and the inner layer 14.

As seen in Figures 2 and 3, the outer layer 12 of the protective cape 10 is substantially flat. The outer layer 12 may be formed of any suitable material, such as cotton, non-woven polyrayon, or the like. In permanent versions of the cape 10, as in the first embodiment, cotton is the preferred material. The outer layer 12 is envisioned as being at least partially liquid absorbent, such that liquids which contact the outer layer 12 will not simply run off the nursing cape 10. Further, the outer layer 12 should be comfortable for the child when the child is held against the cape 10.

As seen in Figure 1, the inner layer 14 is substantially flat. The inner layer 14 of the nursing cape 10 comprises a non-absorbent material, such that it may protect the wearer from liquid soaking through the cape 10 and staining his or her clothing. The inner layer 14 is

ideally formed of a liquid repellant laminate, such as waterproof polyurethane nylon. Alternatively, the inner layer 14 may comprise rubber. Other similar materials may be used as desired, with the design choice being critically determined by the ability of the inner layer 14 to prevent liquid from passing therethrough.

The outer layer 12 and the inner layer 14 are formed to substantially the same size and configuration. Thus, the outer layer 12 and the inner layer 14 share a common circumference, which defines the outer extent of the cape 10. The circumference of the cape 10 comprises a base edge 18, a first arcuate edge 20 and a second arcuate edge 22.

The base edge 18 is substantially linear. The base edge 18 has a first end 24 and a second end 26. The first arcuate edge 20 begins at the first end 24 of the base edge 18. The first arcuate edge 20 extends therefrom in a circular arc in a counter-clockwise direction. The second arcuate edge 22 begins at the second end 26 of the base edge 18. The second arcuate edge 22 extends therefrom in a clockwise direction. The first arcuate edge 20 and a second arcuate edge 24 meet and terminate at a common point 28. Thus the base edge 18, the first arcuate edge 20 and the second arcuate edge 22 form the circumference of the cape 10 and define the outer extent of the cape 10.

The configuration of the nursing cape 10 is specifically designed to offer protection to both the front and back torso of the caregiver. The first arcuate edge 20 and the base edge 18 cooperate to define approximately one half of the cape 10. This first half protects substantially all of the back torso of the caregiver. Similarly, the second arcuate edge 22 and the base edge 18 define approximately one half of the cape 10. This second half protects substantially all of the front torso of the caregiver.

The design of the nursing cape 10 offers means for privately feeding an infant in public. The second half of the cape 10 blocks from view substantially all of the front torso of the mother. By being loosely fitted, a mother wearing the cape 10 may position her baby between herself and the cape 10. The mother may then nurse her child in public with the privacy offered by the cape 10. The mother may then remove the child from under the cape 10, and burp or otherwise hold the child on the outer layer 12 of the cape 10 when nursing is finished. The mother's clothing is now protected from drool of the baby while burping.

The means 16 for joining the outer layer 12 and the inner layer 14 comprises a plurality of stitches 32, disposed along the circumference of the cape 10. The stitches 32 pull together the outer layer 12 and the inner layer 14. Thus, the inner layer 14 and the outer layer 12 are formed to one piece. Additional stitching may be deployed throughout the interior of the layers 12, 14 for security as well as being used to effect a design. Other similar means, such as gluing, may be used in the alternative. Thermal bonding of the two layers 12, 14 could also be effected.

The means 16 for joining may additionally comprise piping 30. The piping 30 comprises cloth formed of a suitable material. The piping 30 is deployed such that a sufficient portion is present on both the outer layer 12 and the inner layer 14. The stitching 32 is then deployed through the piping 30 and therefore through the outer layer 12 and the inner layer 14, joining the layers 12, 14 and the piping 30. The piping 30 adds strength to the circumference of the cape 10 as well as an attractive trim.

The nursing cape 10 of the present invention may further comprise at least one cuff deployed on the outer layer 12. As seen in Figures 2 and 3, the at least one



cuff comprises a first cuff 34 and a second cuff 36. The cuffs 34 and 36 are deployed along a portion of the circumference of the cape 10. Specifically, the cuffs 34, 36 are deployed in the outer layer 12. The cuffs 34, 36 may be formed of material similar to that of the outer layer 12. Alternately, the cuffs 34, 36 may be formed in a manner similar to that of the cape 10, i.e., an outer semi-absorbent layer and an inner non-permeable layer joined together by suitable means for joining. The upper edges 38, 40 of the cuffs 34, 36 are detached from the outer layer 12 of the cape 10. As shown in Figures 2 and 3, the first and second upper edge 38, 40 of the cuffs 34, 36 comprise piping and stitching similar to the circumference of the cape 10, such as to form a protective ridge along upper edge 38, 40. The first and second upper edges 38, 40 may also be simply stitched without piping. The lower edges of the cuffs 34, 36 are attached to the cape 10 in the piping 30 with the outer layer 12 and the inner layer 14, as described herein above.

The nursing cape 10 may further comprise means 42 for securing the cape 10 upon a wearer. The means 42 for securing, as shown in Figures 1-3, comprises a right tie portion 44 and a left tie portion 46. The right tie portion 44 and a left tie portion 46 are formed of piping. The piping may be a continuation of the piping 30 disposed along the base edge 18. Alternatively, the piping of the right tie portion 44 and the left tie portion 46 may be separate members from the piping 30 along the base edge 18. Stitching is used to seal the piping into unitary members. The right tie portion 44 and the left tie portion 46 are interfaced in a knot or other tying arrangement, as is readily known. Alternately, the right tie portion 44 and left tie portion 46 could be replaced by Velcro fasteners disposed at the first end 24 and the second end 26, respectively, of the cape 10. Other similar means,

such as snap fasteners, may also be used as desired.

The cape 10 may further comprise a pacifier holder 48, as seen in Figure 2. The pacifier holder is a piece of piping, having one half of a snap fastener at the very end and the other half of the snap fastener located between the two ends of the piece of piping. The pacifier is placed on the piping, with the fastener connecting the piping and securing the pacifier thereon. Although the pacifier holder 48 is disposed proximate to the base edge 18, it may be placed anywhere on the outer surface 12 of the cape 10. Other structures, such as clips, may be substituted as means for retaining a pacifier.

The cape 10 may further comprise a bottle holder 50 disposed on the outer layer 12. The bottle holder 50 comprises a sturdy fabric, such that it may support the weight of a full baby bottle. The holder 50 is tapered, reducing in width from the top 52 to the bottom 54 thereof. The nipple of a bottle (not shown) deployed in the bottle holder 50 protrudes through the bottom 54 thereof. Decorative designs, such as an elephant head, may be pressed over the bottle holder 50. Alternately, the holder 50 could be incorporated in a design, in the foregoing as an elephant's trunk. The bottle holder 50 may be sewn or formed into the cape 10 as desired.

The cape 10 may further comprise a storage pocket 56 on the outer layer 12. The pocket 56 may hold associated items, such as a matching baby bib.

It is to be noted that a plurality of bottle holders, pockets and pacifier holders may be deployed on the outer layer 14 to allow the nursing cape 10 to be deployed on either shoulder of a caregiver. The depiction of these features in Figure 2 is illustrative of one design, and should not be considered as limiting the present invention thereto.

The deployment of the nursing cape 10 of the caregiver will now be described. The cape 10 is placed upon a caregiver (not shown) across one shoulder. Although the nursing cape 10 may be deployed across either shoulder, the cape 10 will be herein described as being disposed on the right shoulder of a caregiver. The base edge 18 is disposed in substantial proximity to the neck of the caregiver, even onto the neck if preferred. The common point 28 is disposed, depending on the physical size of the caregiver, in the range of the edge of the shoulder to the elbow of the right arm of the caregiver. Thus, approximately one-half of the cape 10 covers the front part of the torso of the caregiver, and approximately one-half of the cape 10 covers the back shoulder blade of the caregiver.

The first end 24 of the base edge 18 continues across the back of the caregiver, reaching the left side of the torso of the caregiver. The second end 26 of the base edge 18 continues across the front of the torso of the caregiver, reaching the left side thereof. The means 42 for securing are then effected to retain the cape 10 upon the caregiver.

Privacy is therefore afforded if the mother breast-feeds the infant. The baby may be positioned between the mother and the cape 10 to allow private breast-feeding. The first cuff 34 and the second cuff 36 are upwardly open. Thus, falling food, drool or other potentially staining material is captured before reaching the caregiver's clothes when the baby is bottle-fed, burped or otherwise held on the outer layer.

Referring now to Figure 4, there is shown therein a second embodiment of the nursing cape 110. The second embodiment of the cape 110 comprises a disposable cape having at least one layer 111. The at least one layer 111 is formed of non-woven polyrayon fabric. The at least one

layer 111 has an inner surface and an outer surface. The at least one layer 111 has a liquid repellant film disposed on the inner surface thereof. The film helps prevent liquid from soaking through the cape 110. The film does not, however, make the disposable nursing cape 110 liquid impermeable. In as much as the cape 110 is disposable, this film offers the desired protection necessary. The second embodiment 110 shows piping 130 stitched thereon in association with the cuffs 134, 136 thereon. Piping is not, however, required in this one layer embodiment. It may be added for decoration in addition to be means for joining the cuffs onto the cape 110.

The disposable cape 110 may contain features such as a bottle holder, pacifier, etc., as in the first embodiment. However, the nursing cape 110 will more normally only have at least one cuff disposed thereon, as in the previous embodiments. The purpose of the disposable cape 110 is for one-time use, such as in a hospital nursery, where nurses must change capes between caring for different children. Additionally new parents, relations, etc., feeding or otherwise holding the baby will use the cape 110 for its protective features as well as for a general sanitary measure. Finally and primarily, the cape 110 offers privacy to mother and child during breast-feeding without requiring other people to leave a room or causing the mother anxiety.

Having, thus, described the invention, what is claimed is:

CLAIMS

1. A nursing cape comprising:
  - (a) an outer layer;
  - (b) an inner layer comprising a liquid repellant material; and
  - (c) means for joining the outer layer and the inner layer.
2. The nursing cape of Claim 1, further comprising at least one cuff disposed along a portion of the outer layer.
3. The nursing cape of Claim 1, the cape further comprising:
  - (a) a base edge, the base edge having a first end and a second end;
  - (b) a first arcuate edge extending from the first end of the base side; and,
  - (c) a second arcuate edge extending from the second end of the base side;wherein the first arcuate edge and the second arcuate edge intersect and terminate at a common point, the base edge, the first arcuate edge and the second arcuate edge defining the circumference of the cape.
4. The nursing cape of Claim 3, further comprising at least one cuff disposed along the circumference of the cape.
5. The nursing cape of Claim 3, further comprising:
  - (a) a first cuff deployed along a first portion of the circumference of the cape; and
  - (b) a second cuff deployed along a second portion of the circumference of the cape.
6. The protective cape of Claim 4, wherein the at least one cuff comprises an outer layer and an inner layer, the inner layer comprising a waterproof material, wherein the at least one cuff and outer layer of



the cape cooperate to catch and retain solid or liquid items therebetween.

7. The cape of Claim 1, further comprising means for removably securing the cape on a wearer.

8. The cape of Claim 1, further comprising a pacifier holder deployed on the outer layer of the cape.

9. The cape of Claim 1, the cape further comprising a bottle holder disposed on the outer layer.

10. The cape of Claim 1, the cape further comprising a storage pocket disposed upon the outer layer.

11. The cape of Claim 1, the cape further comprising a toy holder disposed on the outer layer.

12. A nursing cape comprising:

(a) an outer layer formed of cotton;

(b) an inner layer formed of a non-woven polyrayon, the inner layer being of substantially the same size and the same shape as the outer layer, the outer layer and the inner layer having a common circumference;

(c) piping disposed around the circumference of the outer layer and the inner layer;

(d) a plurality of stitches deployed through the piping to join the outer layer and the inner layer;

(e) a plurality of cuffs formed along the circumference of the outer layer;

(f) means for removably securing the cape upon a wearer, the means connected to the outer layer of the cape;

(g) a bottle holder disposed upon the outer layer;

(h) a pacifier holder disposed upon the outer layer; and

(i) a storage pocket for a matching baby bib, the pocket disposed on the outer layer.

13. A disposable nursing cape having at least one layer of non-woven polyrayon material, the cape further having:

(a) a base edge, the base edge having a first end and a second end;

(b) a first arcuate edge extending from the first end of the base side; and

(c) a second arcuate edge extending from the second end of the base side;

wherein the first arcuate edge and the second arcuate edge intersect and terminate at a common point, the base edge, first arcuate edge and second arcuate edge comprising the circumference of the cape, the circumference defining the shape of the cape such that substantially most of the torso of a wearer is covered.

FIG 1

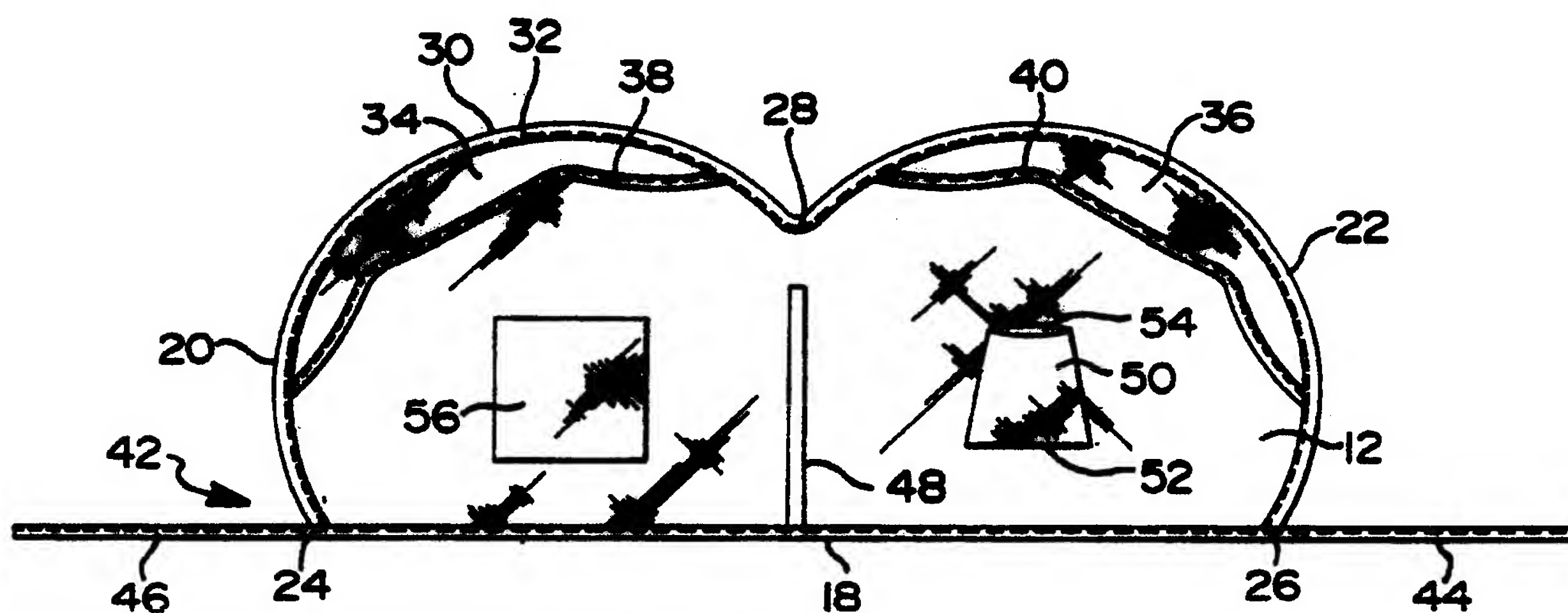
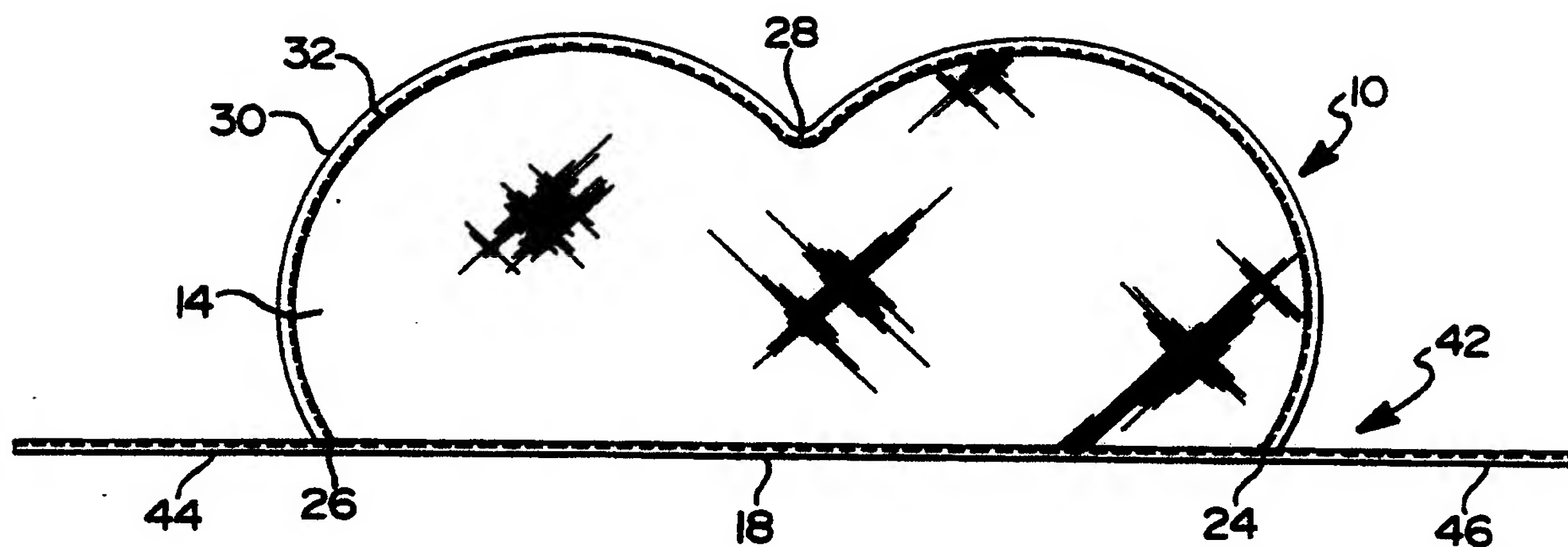
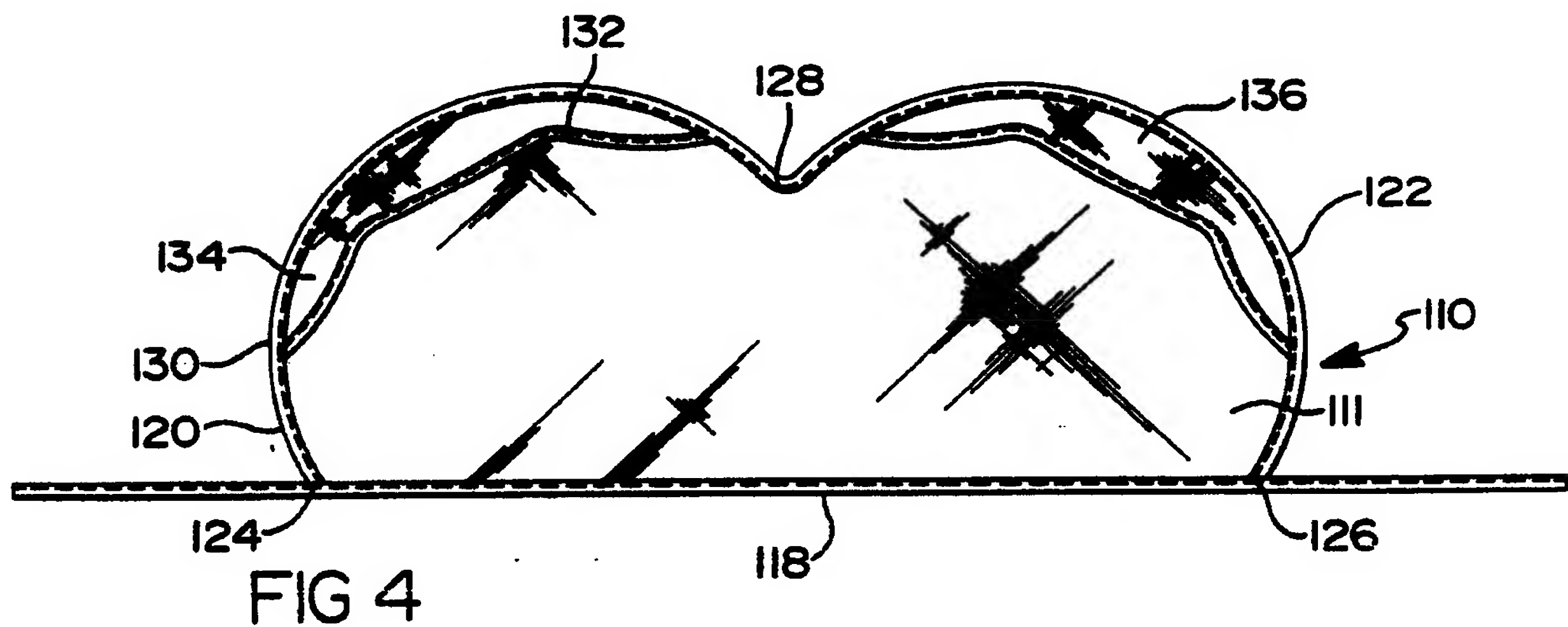
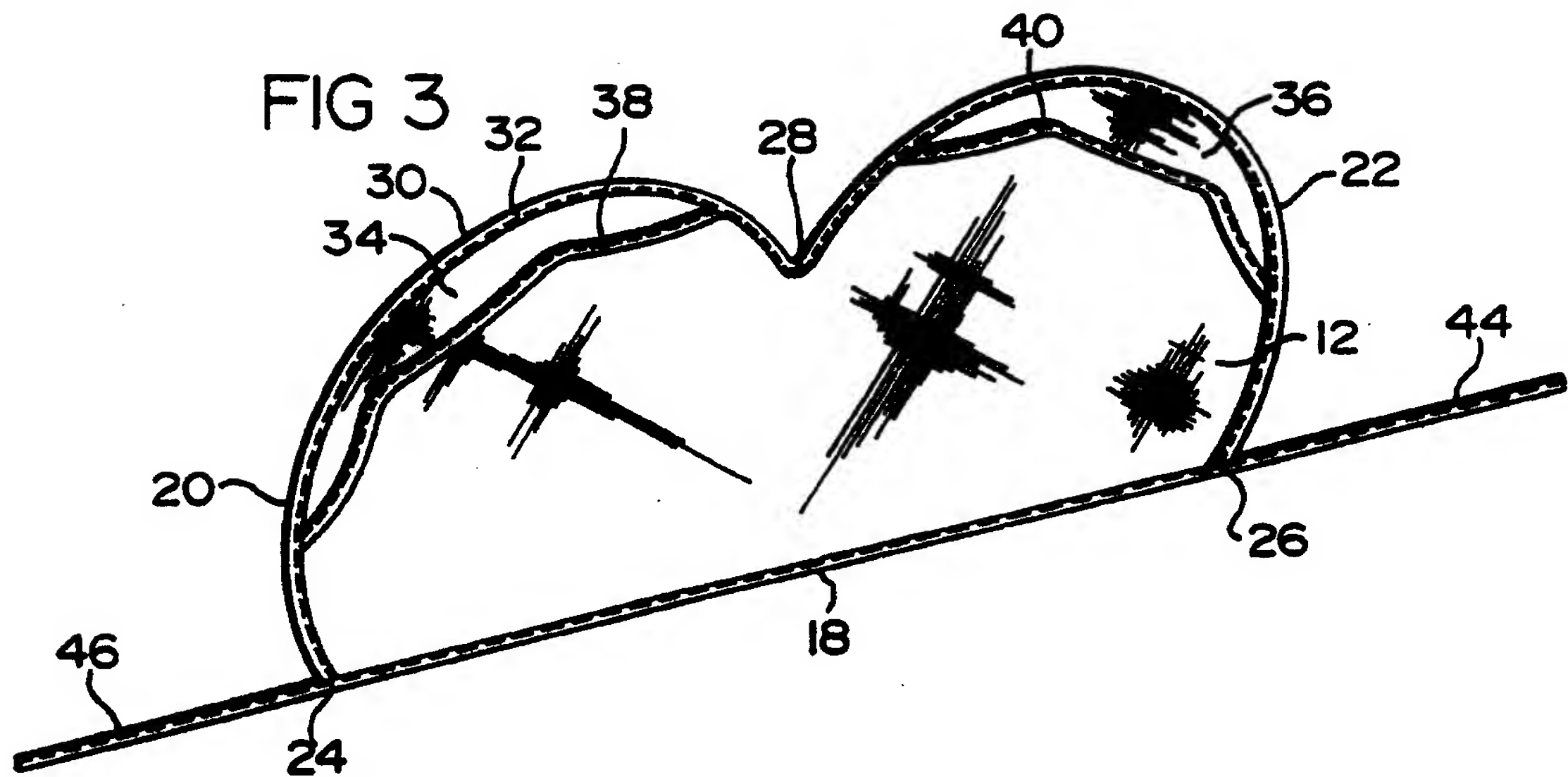


FIG 2



# INTERNATIONAL SEARCH REPORT

International Application No. PCT/US92/00056

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (if several classification symbols apply, indicate all) <sup>6</sup>		
According to International Patent Classification (IPC) or to both National Classification and IPC IPC(5): A41D 1/20 U.S. CL.: 2/104		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>7</sup>		
Classification System	Classification Symbols	
US	2/104,49R,48,88,114	
Documentation Searched other than Minimum Documentation to the extent that such Documents are Included in the Fields Searched <sup>8</sup>		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT <sup>9</sup></b>		
Category <sup>9</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
A	US, A, 2,417,888 (SCHUSTER) 25 March 1947; See the entire document.	
A	US, A, 2,690,563 (WILSON) 05 October 1954, See the entire document.	
A	US, A, 4,468,816 (KAUFER) 04 September 1984.	
A	US, A, 4,779,288 (MACK) 25 October 1988.	
A	US, A, 4,811,428 (WALDMAN ET AL.) 14 March 1989.	
A	US, A, 4,924,528 (TROMBETTI-DICKENS) 15 May 1990.	
A P	US, A, 4,995,116 (BEAUCHAMP ET AL.) 26 February 1991.	
A,P	US, A, 5,034,999 (LUBBERS) 30 July 1991.	
A,P	US, A, 5,038,411 (ST. ARMAND) 13 August 1991.	
A	US, A, 4,787,099 (MACK) 29 November 1988.	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><sup>10</sup> Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&amp;" document member of the same patent family</p> </div> </div>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
24 MARCH 1992		22 APR 1992
International Searching Authority		Signature of Authorized Officer
ISA/US		GLORIA HALE